

RECLAMATION

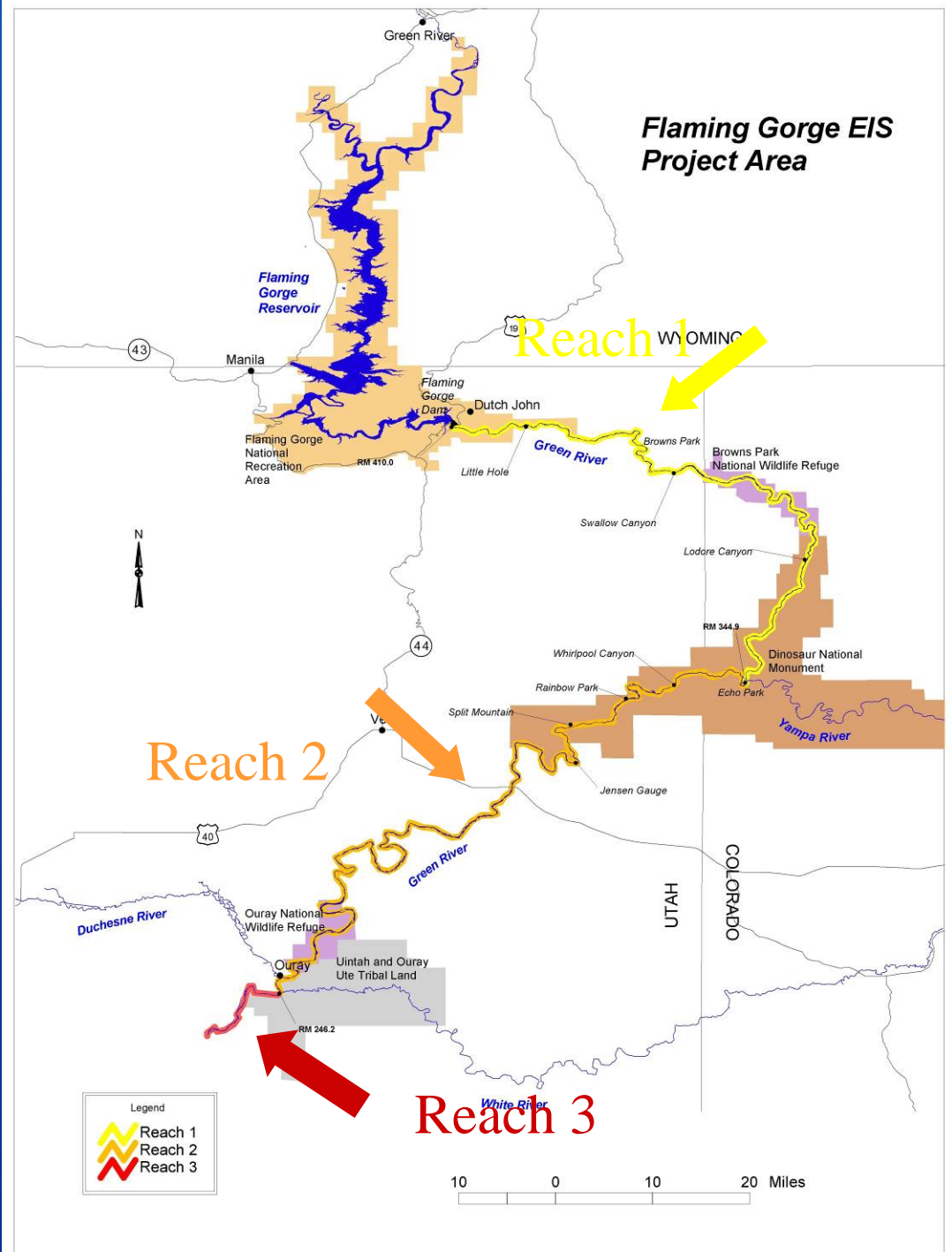
Managing Water in the West

Flaming Gorge TWG Flow and Temperature Recommendations Spring 2006

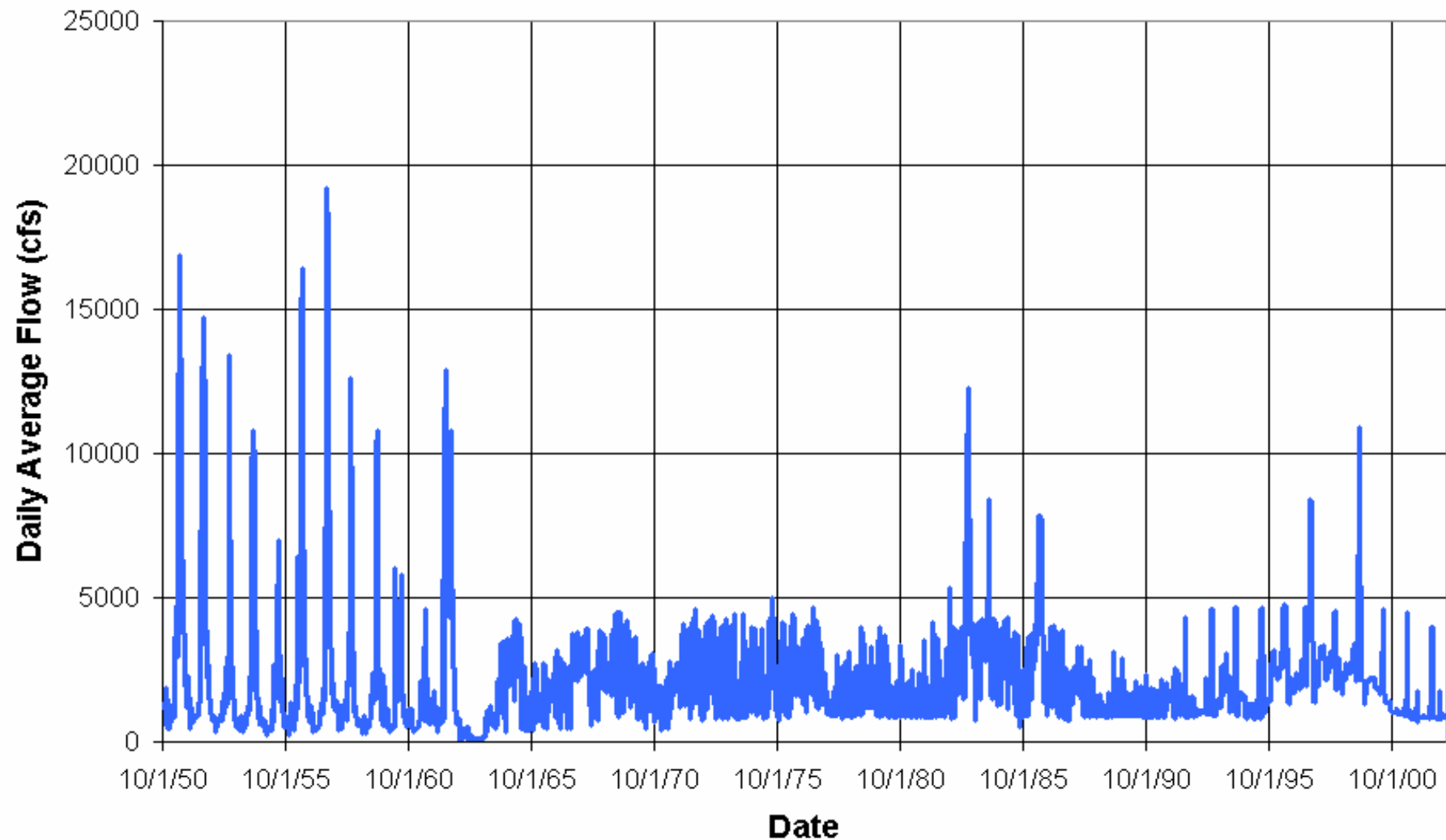


U.S. Department of the Interior
Bureau of Reclamation

GEOGRAPHIC SCOPE



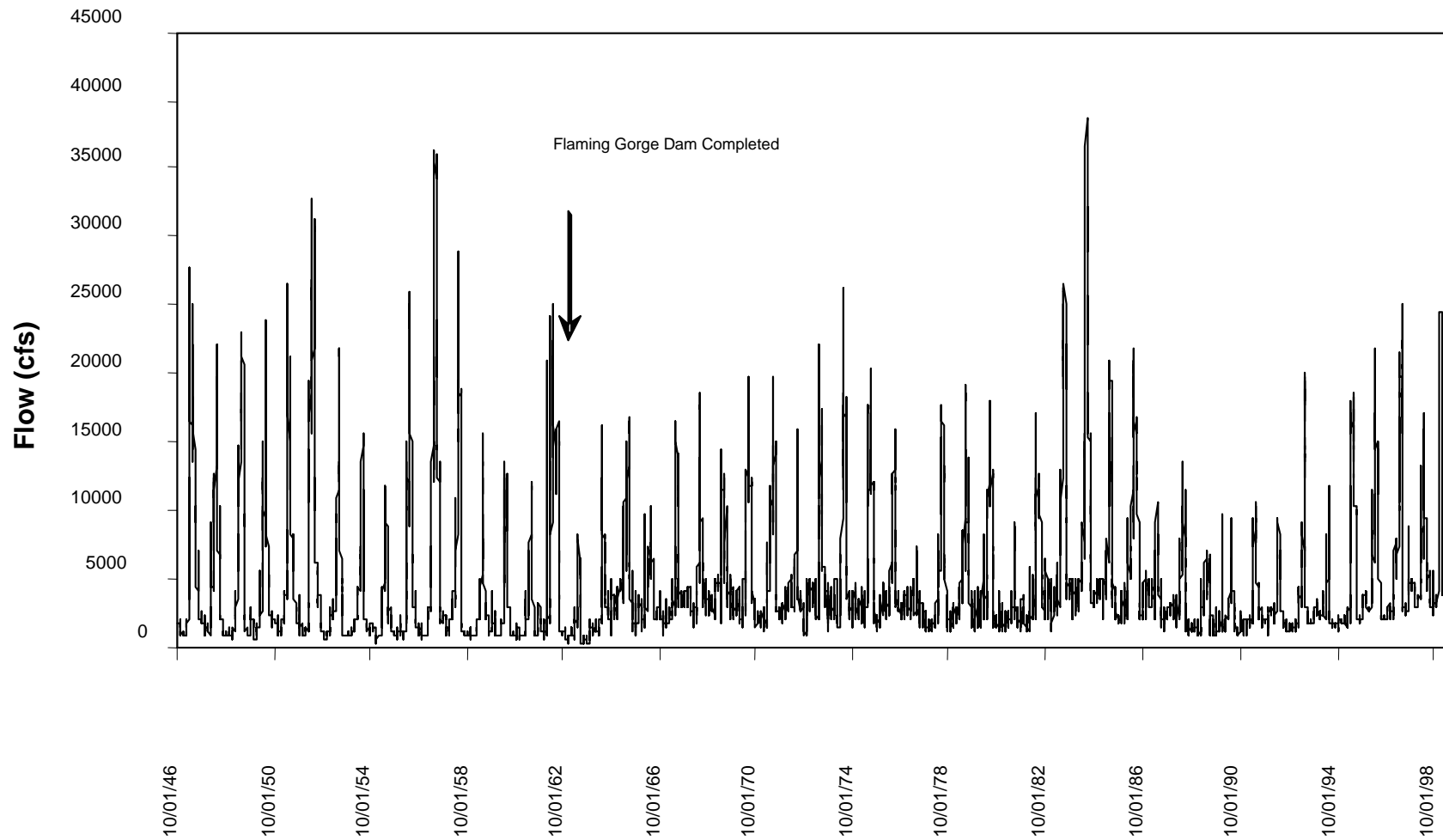
Greendale Gauge Daily Average Historical Flows



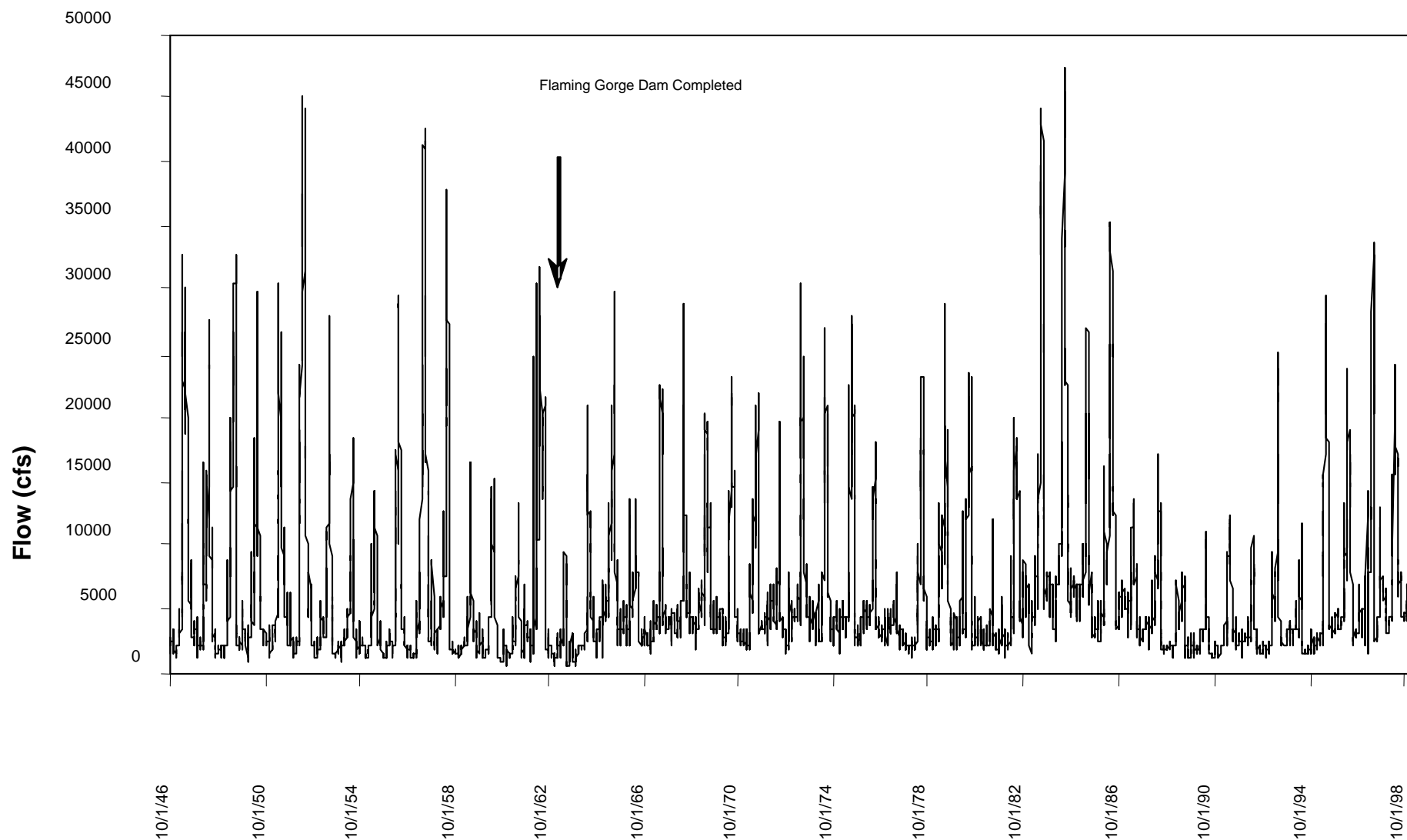
Reach 1

RECLAMATION

Reach 2: Jensen Gage



Reach 3: Green River Gage



Percentage Exceedances and Hydrologic Classifications

Hydrologic Classification	Percentage Exceedance Range
Wet	<10
Moderately Wet	30 to 10.1
Average	70 to 30.1
Moderately Dry	90 to 70.1
Dry	>90

RECLAMATION

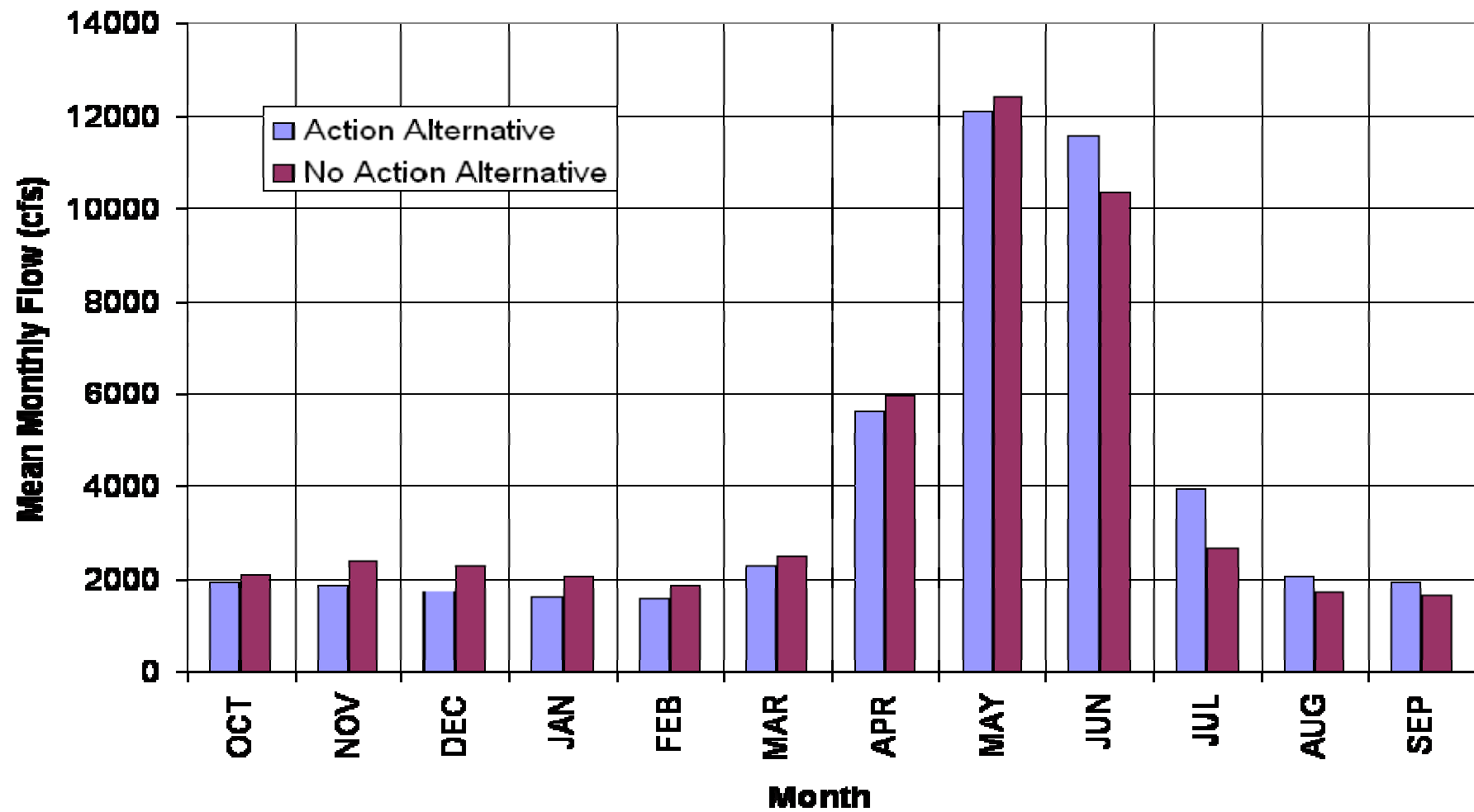
2000 Flow and Temperature Recommendations

Flows, Durations, and Frequencies

Spring Peak Flow Recommendations	Hydrologic year classification	Reach	Frequent % Years	Action Ruleset	No Action Ruleset
Peak \geq 26,400 cfs for at least 1 day	Wet	2	10%	11.3%	7.1%
Peak \geq 22,700 cfs for at least 2 weeks	Wet	2	10%	10.7%	4.6%
Peak \geq 18,600 cfs for at least 4 weeks	Wet	2	10%	11.1%	6.0%
Peak \geq 20,300 cfs for at least 1 day	Moderately Wet	2	30%	46.3%	42.3%
Peak \geq 18,600 cfs for at least 2 weeks	Moderately Wet and Average	2	40%	41.1%	15.6%
Peak \geq 18,600 cfs for at least 1 day	Average	2	50%	60.3%	59.1%
Peak \geq 8,300 cfs for at least 1 week	Moderately Dry	2	90%	96.8%	96.9%
Peak \geq 8,300 cfs for at least 1 day	Dry	2	100%	100%	98.5%
Peak \geq 8,300 cfs for at least 2 days except in extreme dry years	Dry	2	98%	99.6%	98.4%
Peak \geq 8,600 cfs for at least 1 day	Wet	1	10%	30.2%	6.5%
Peak \geq 4,600 cfs for at least 1 day	Moderately Wet, Average, Moderately Dry, and Dry	1	100%	100%	100%

RECLAMATION

Reach 2 Average Monthly Flows



Proposed Spring Flow Objectives for 2006

- **If the combined forecast of the Green and Yampa Rivers remains from 2,710 KAF to 3,015 KAF**
 - **Flows near Jensen should be managed to the extent possible in order to achieve at least 18,600 cfs for at least 14 days.**
 - **The flows of at least 18,600 cfs should be achieved during the peak and post peak flows of the Yampa River (dam releases supplement flows on the Yampa peak).**

RECLAMATION

Proposed Spring Flow Objectives for 2006

- **If the combined forecast of the Green and Yampa Rivers decreases below 2,710 KAF prior to or during spring operations.**
 - **Flows near Jensen should be managed to the extent possible in order to achieve at least 18,600 cfs for at least 1 day.**

RECLAMATION

Proposed Spring Flow Objectives for 2006

- If the combined forecast of the Green and Yampa Rivers increases above 3,015 KAF prior to or during spring operations.
 - Flows near Jensen should be managed to the extent possible in order to achieve at least 20,300 cfs for at least 1 day and at least 18,600 cfs for at least 14 days.

RECLAMATION

Proposed Spring Flow Objectives for 2006

- If forecasted Yampa River flows do not provide a reasonable opportunity to achieve the level specified in our proposal for Reach 2.
 - Flows in Reach 1 should be managed in order to achieve at least 4,600 cfs for as long as necessary to safely manage Flaming Gorge Reservoir in order to obtain our proposed base flow target by no later than July 15, 2006.
 - Flows in Reach 1 should be managed to obtain flows in Reach 2 for at least 14,000 cfs for as long as possible.

RECLAMATION

Proposed Base Flow Targets for 2006

- If the hydrology remains in the average category, a base flow target should be selected in the range from 1,500 to 2,400 cfs in Reach 2.
- If the hydrology moves to the moderately wet classification, a base flow target should be selected in the range from 2,400 to 2,800 cfs in Reach 2.
- The base flow target should be achieved on or before July 15, 2006.

RECLAMATION

Proposed Daily Fluctuations for the Summer-2006

- **The 2006 Flaming Gorge Record of Decision allows for daily fluctuations to occur for power generation.**
 - **Fluctuations for power generation during the base flow period should be limited to produce no more than a 0.1 meter stage change each day measured at Jensen.**

RECLAMATION

Proposed Base Flow Targets for 2006

- The 2006 Flaming Gorge Record of Decision allows for base flows in Reach 2 to vary about the mean base flow target.
 - Variation in flow around the established mean base flow should be consistent with the variability that occurred in pre-dam flows.
 - Mean daily flows should be kept within +/-40% of the annual mean base flow in the summer-autumn and within + 25% of the annual mean base flow in winter.

RECLAMATION

Proposed Temperature Targets for 2006

- **Variations about the mean base flow target should be limited such that the following temperature targets can be achieved.**
 - **Water Temperatures of 18 degrees Celsius or greater should be targeted in upper Lodore Canyon for 2 to 5 weeks in the beginning of the base flow period.**
 - **The Green River should be no more than 5 degrees Celsius colder than the Yampa River at their confluence during the summer base flow period.**

RECLAMATION

